

WHAT IS CLAIMED IS:

1. A system for lining a lateral wellbore, comprising:
a main casing having a lateral wellbore window formed therein disposed within a main wellbore;
5 a whipstock having a longitudinal bore running therethrough and disposed within the main wellbore adjacent the lateral wellbore window, the whipstock comprising a deflecting surface for forming a lateral wellbore through the lateral wellbore window;
a tie-back assembly operable to dispose a lateral liner within the lateral
10 wellbore, the tie-back assembly having a tie-back window formed therein; and
whereby, when the tie-back assembly is disposed into the main wellbore, the lateral liner and a portion of the tie-back assembly are deflected into the lateral wellbore by the deflecting surface such that the tie-back window aligns with the longitudinal bore of the whipstock.
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2. The system of Claim 1, further comprising a latching mechanism operable to couple the whipstock to an inside surface of the main casing and align the deflecting surface with the lateral wellbore window.
- 20 3. The system of Claim 1, wherein the longitudinal bore of the whipstock is concentric with an outside diameter of the whipstock.
4. The system of Claim 1, wherein the tie-back assembly comprises:
a lower section configured to couple to the lateral liner;
25 an upper section configured to couple to the main casing; and
an intermediate section disposed between the lower and upper sections;
a first swivel coupling the intermediate section to the lower section, the first swivel operable to allow angular and rotational movement of the intermediate section relative to the lower section; and
30 a second swivel coupling the intermediate section to the upper section, the second swivel operable to allow only angular movement of the intermediate section relative to the upper section.

5. The system of Claim 4, further comprising a latching mechanism operable to couple the upper portion to the main casing and align the tie-back window with the longitudinal bore of the whipstock.

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6. The system of Claim 1, wherein the deflecting surface extends around the full perimeter of the whipstock.

7. The system of Claim 1, wherein an end of the lateral liner comprises an outside diameter that is at least slightly greater than a diameter of the longitudinal bore.

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8. The system of Claim 1, wherein the main casing comprises an outside diameter of approximately 5 1/2 inches.

9. A method for lining a lateral wellbore, comprising:
drilling a main wellbore extending from a surface to a subterranean zone;
casing the main wellbore with a main casing having a plurality of lateral
wellbore windows formed therein;
- 5 positioning a whipstock having a longitudinal bore running therethrough
adjacent a respective one of the lateral wellbore windows;
forming a lateral wellbore through the respective lateral wellbore window
using the whipstock;
- 10 lining the first lateral wellbore with a lateral liner and a portion of a tie-back
assembly, the tie-back assembly having a pre-milled lateral wellbore window formed
therein;
- aligning the pre-milled lateral wellbore window with the longitudinal bore;
and
coupling the tie-back assembly to the main casing.
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10. The method of Claim 9, further comprising successively repeating the
positioning, forming, lining, aligning and coupling steps with respect to the remaining
lateral wellbore windows.
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11. The method of Claim 9, further comprising directing a tool through the
lateral wellbore by utilizing the whipstock.
13. The method of Claim 9, wherein positioning the whipstock further
comprises:
- 25 aligning the whipstock such that a deflecting surface of the whipstock faces
the respective lateral wellbore window; and
coupling the whipstock to the main casing with a latching mechanism.
14. The method of Claim 9, wherein aligning the pre-milled lateral
30 wellbore window with the longitudinal bore further comprises rotating the tie-back
assembly and wherein coupling the tie-back assembly to the main casing comprises
latching the tie-back assembly to the main casing.

15. The method of Claim 9, wherein casing the main wellbore comprises casing the main wellbore with a main casing having an outside diameter of approximately 5 1/2 inches.

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16. The method of Claim 9, wherein the tie-back assembly further comprises a lower section, an upper section, and an intermediate section disposed between the lower and upper sections, the method further comprising:

allowing angular and rotational movement of the intermediate section relative
10 to the lower section; and

allowing only angular movement of the intermediate section relative to the upper section.

17. A system for lining a lateral wellbore, comprising:

a main casing having a lateral wellbore window formed therein disposed within a main wellbore;

5 a whipstock having a longitudinal bore running therethrough and disposed within the main wellbore adjacent the lateral wellbore window, the whipstock comprising a deflecting surface extending around the full perimeter of the whipstock for forming a lateral wellbore through the lateral wellbore window;

a tie-back assembly operable to dispose a lateral liner within the lateral wellbore, the tie-back assembly comprising:

10 a lower section configured to couple to the lateral liner;

an upper section;

an intermediate section disposed between the lower and upper sections, the intermediate section having a tie-back window formed therein; and

a nose section coupled to the intermediate section; and

15 whereby, when the tie-back assembly is disposed into the main wellbore, the lateral liner, the lower section and a portion of the intermediate section are deflected into the lateral wellbore by the deflecting surface and the nose section is inserted into the whipstock such that the tie-back window aligns with the longitudinal bore of the whipstock.

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18. The system of Claim 17, wherein the longitudinal bore of the whipstock is concentric with an outside diameter of the whipstock.

25 19. The system of Claim 17, wherein the nose section is coupled to an inside surface of the whipstock with a latching mechanism.

20. The system of Claim 17, wherein a diameter of the intermediate section gradually decreases from the upper section to the lower section.

30 21. The system of Claim 17, wherein the main casing comprises an outside diameter of approximately 5 1/2 inches, the lateral wellbore comprises a diameter of approximately 4 3/4 inches, and a diameter of the intermediate section is uniform.

22. The system of Claim 17, wherein the whipstock comprises an outside diameter of approximately 4 1/2 inches and a the longitudinal bore comprises a diameter of approximately 2.44 inches.

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23. The system of Claim 17, further comprising a latching mechanism operable to couple the whipstock to an inside surface of the main casing and align the deflecting surface with the lateral wellbore window.

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24. The system of Claim 17, further comprising:

a first swivel coupling the intermediate section to the lower section, the first swivel operable to allow angular and rotational movement of the intermediate section relative to the lower section; and

15 a second swivel coupling the intermediate section to the upper section, the second swivel operable to allow only angular movement of the intermediate section relative to the upper section.

25. The system of Claim 17, further comprising a latching mechanism operable to couple the upper portion to the main casing.

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26. The system of Claim 17, wherein an end of the lateral liner comprises an outside diameter that is at least slightly greater than a diameter of the longitudinal bore.

27. A method for lining a lateral wellbore, comprising:
drilling a main wellbore extending from a surface to a subterranean zone;
casing the main wellbore with a main casing having a plurality of lateral
wellbore windows formed therein;

- 5 positioning a whipstock having a longitudinal bore running therethrough
adjacent a respective one of the lateral wellbore windows, the whipstock comprising a
deflecting surface extending around the full perimeter of the whipstock;
forming a lateral wellbore through the respective lateral wellbore window
using the whipstock;
10 lining the first lateral wellbore with a lateral liner and a portion of a tie-back
assembly, the tie-back assembly comprising an intermediate section having a pre-
milled lateral wellbore window formed therein;
aligning the pre-milled lateral wellbore window with the longitudinal bore;
and
15 coupling the tie-back assembly to the main casing.

28. The method of Claim 27, further comprising successively repeating the
positioning, forming, lining, aligning and coupling steps with respect to the remaining
lateral wellbore windows.

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29. The method of Claim 27, further comprising directing a tool through
the lateral wellbore by utilizing the whipstock.

30. The method of Claim 27, wherein the longitudinal bore of the
25 whipstock is concentric with an outside diameter of the whipstock.

31. The method of Claim 27, wherein positioning the whipstock further
comprises:

- aligning the whipstock such that the deflecting surface of the whipstock faces
30 the respective lateral wellbore window; and
coupling the whipstock to the main casing with a latching mechanism.

32. The method of Claim 27, wherein aligning the pre-milled lateral wellbore window with the longitudinal bore further comprises rotating the tie-back assembly and wherein coupling the tie-back assembly to the main casing comprises latching the tie-back assembly to the main casing.

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33. The method of Claim 27, wherein the tie-back assembly further comprises a nose section, the method further comprising inserting substantially all of the nose section into the longitudinal bore of the whipstock when aligning the pre-milled lateral wellbore window with the longitudinal bore.

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34. The method of Claim 27, wherein casing the main wellbore comprises casing the main wellbore with a main casing having an outside diameter of approximately 5 1/2 inches, and wherein forming the lateral wellbore comprises forming a lateral wellbore having an outside diameter of approximately 4 3/4 inches.

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35. The method of Claim 27, wherein the tie-back assembly further comprises a lower section, an upper section, and a nose section, the method further comprising:

20 allowing angular and rotational movement of the intermediate section relative to the lower section; and

allowing only angular movement of the intermediate section relative to the upper section.

25 36. The method of Claim 35, further comprising causing a diameter of the intermediate portion to gradually decrease from the upper section to the lower section.